

In the United States Patent and Trademark Office
Board of Patent Appeals and Interferences

Appeal Brief

In re the Application of:

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Serial No. 09/972,362
Filed: October 5, 2001
Attorney Docket No. SJO920010099US1

METHODS AND APPARATUS FOR LAUNCHING DEVICE SPECIFIC
APPLICATIONS ON STORAGE AREA NETWORK COMPONENTS

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CERTIFICATE UNDER 37 CFR 1.8:

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TABLE OF CONTENTS

| | | |
|-------|---|----|
| I. | Real Party in Interest..... | 1 |
| II. | Related Appeals, Interferences, and Judicial Proceedings..... | 2 |
| III. | Status of the Claims | 3 |
| IV. | Status of Amendments | 4 |
| V. | Summary of the Claimed Subject Matter..... | 5 |
| A. | Independent Claim 1 | 5 |
| B. | Independent Claim 21 | 8 |
| C. | Independent Claim 24 | 12 |
| D. | Independent Claim 31 | 15 |
| VI. | Grounds of Rejection to Be Reviewed on Appeal | 20 |
| VII. | Argument | 21 |
| A. | Rejection Under 35 U.S.C. §103 Over Weber in view of Ismael | 21 |
| 1. | Claims 1, 5, 7, 8, 9, 21, 24, 27, 28, 30, 31, 34, 36-48 | 21 |
| 2. | Claims 2, 22, 25, and 32 | 25 |
| 3. | Claims 4, 23, 26, and 33 | 26 |
| 4. | Claims 6, 29, and 35 | 27 |
| B. | Conclusion | 27 |
| VIII. | Claims Appendix | 28 |
| IX. | Evidence Appendix | 37 |
| X. | Related Proceedings Appendix | 38 |

I. Real Party in Interest

The entire right, title and interest in this patent application is assigned to real party in interest International Business Machines Corporation.

II. Related Appeals, Interferences, and Judicial Proceedings

There are no prior and pending appeals, judicial proceedings or interferences known to the appellant which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

III. Status of the Claims

Claims 1, 2, 4-9, and 21-48 are pending and have been rejected.

The final rejection of the claims in the Final Office Action dated September 4, 2007 (“Sept. 2007 FOA”) is being appealed for all pending claims 1, 2, 4-9, and 21-48.

IV. Status of Amendments

No amendments have been submitted following the Final Office Action.

V. Summary of the Claimed Subject Matter

A. Independent Claim 1

The preamble recites a system in communication with a network comprising one or more network components. The Specification (“Spec”) discloses a SAN manager 20 to manage a SAN 10 that is connected to hosts 12 and storage devices 14 via a LAN 18. (Spec., pgs. 53-54, FIG. 1)

Below is an explanation of the claimed subject matter of claim 1 referring to the specification and drawings, where the claim requirements are underlined:

a manager in communication with the network components having application processes residing on the network components

The Specification discloses that the SAN manager service 38 (FIG. 6) maintains a representation of the SAN providing information on the identity of the SAN components and their connectivity. The manager service 38 maintains for selected components information regarding management applications specific to them, such as applications residing directly on the components. (Spec., pg. 175, lines 1-8).

an interface process in communication with the manager and the network components

The Specification discloses that a Netview server 54 (FIG. 6) can retrieve the SAN representation from the manager service 38 and allow the operator to launch an application process associated with a selected SAN component, such as a management application residing on that component. (Spec., pg. 176, lines 11-20).

wherein the interface process performs:

obtaining information on the network components from the manager

The Specification discloses that a Netview server 54 (FIG. 6) can retrieve the SAN representation from the manager service 38. (Spec., pg. 176, lines 4-10).

maintaining a rules file having at least one rule for each of the network components, wherein each rule identifies the network component to be managed, one of a plurality of communication interface types, and a parameter name,

wherein the parameter name is used with the communication interface type to invoke the application process residing on the network component

The Specification discloses that a “Rules” file identifies each of the selected components and the applications and communication interfaces supported by that component, e.g., telnet, SNMP. (Spec., pg. 175, lines 5-14). The rules file has a management information section providing management information types of communication interface, e.g., Telnet, URL, application, SNMP, a command, and a parameter used with the command for the type of communication. (Spec., pgs. 178, line 18 to pg. 179, line 2 and pgs. 182-184).

displaying information representing the network components

The Specification discloses that the Netview console 52 displays a plurality of graphical objects, e.g., icons, each of which represents one of the SAN components. Alternatively, a textual list of the SAN components can be displayed. (Spec., pg. 176, lines 7-10).

receiving selection of one displayed network component

The Specification discloses that the Netview console 52 provides an operator, e.g., the SAN administrator, with a user interface element, such as keyboard or mouse, that permits selection of one of the displayed components. (Spec., pg. 176, lines 6-10).

accessing the rules file to determine at least one application process associated with the selected network component

The Specification discloses that in response to the selection of a graphical object representing a SAN component, the Netview server accesses the Rules file to obtain information regarding the application processes associated with that selected component. (Spec., pg. 176, lines 14-16)

displaying information on the at least one determined application process residing on the selected network component, wherein at least one of the determined application processes reside on the selected network component

The Specification discloses that for the selected component, the Netview server accesses the rule file to obtain information regarding the application processes associated with that selected component, and effects the display of this information, for example, in the form of a menu, on the Netview console 52. In some embodiments, a plurality of management applications residing on a selected component are displayed while in other embodiments, only the primary management application is displayed. (Spec., pg. 176, lines 14-24)

receiving selection of one of the displayed application processes residing on the selected network component

The Specification discloses that the Netview server 54 responds to the selection of one of the displayed effecting the launching of that application process via an interface process. (Spec., pg. 177, lines 1-5).

accessing the rule from the rules file for the selected application process to determine information on the selected application process and the communication interface type and parameter name supported by the application process to use to launch the selected application process on the selected network component

The Specification discloses that the Netview server 54 responds to the selection of one of the displayed application processes by effecting the launching of that application process via an interface process, such as a web-based browser application, a telnet process, or an SNMP application. More particularly, the Netview server 54 communicates with the SAN manager service 38 to retrieve information, 5 such as, launch method and its respective parameters. The SAN manager service responds to a request from the Netview server for the launch information by parsing the Rules file to generate an object, e.g., an XML object, that contains the requisite information, and transmits the information to the Netview server. The Netview server utilizes the object returned from the SAN manager service to effect the launching of the selected application process. (Spec., pg. 177, lines 1-10).

The Specification further discloses that the Rules file identifies each of the selected components and the applications and communication interfaces supported by

that component, e.g., telnet, SNMP. (Spec., pg. 175, lines 5-13) The management information section of the Rules file supplies the commands and parameter for the communication interfaces to use to communicate. (Spec., pgs. 182-185).

launching the selected application process on the selected network component using the determined communication interface type and parameter name from the rules file

The Specification discloses that the SAN manager service responds to a request from the Netview server for the launch information by parsing the Rules file to generate an object, e.g., an XML object, that contains the requisite information, and transmits the information to the Netview server. The Netview server utilizes the object returned from the SAN 10 manager service to effect the launching of the selected application process. (Spec., pg. 177, lines 4-10).

B. Independent Claim 21

The preamble recites a network. The Specification discloses a SAN including a variety of components, such as one or more digital data processors hosts, one or more storage device, and a switching fabric between the hosts and the storage devices (Spec., pg. 174, lines 11-14).

Below is an explanation of the claimed subject matter of claim 21 referring to the specification and drawings, where the claim requirements are underlined:

network components, wherein application processes reside on the network components and configure and manage the network components in which the application processes execute

The Specification discloses network components acquired from different vendors, and have various application software associated therewith. For example, the switching fabric components can have vendor-specific management applications that allow configuring and/or managing these components. (Spec., pg. 174, lines 14-17)

a manager system in communication with the network components

The Specification discloses that the SAN manager service 38 (FIG. 6) maintains a representation of the SAN providing information on the identify of the SAN components and their connectivity. (Spec., pg. 175, lines 1-12).

an interface process in communication with the manager and the network components

The Specification discloses that a Netview server 54 (FIG. 6) can retrieve the SAN representation from the manager service 38 and allow the operator to launch an application process associated with a selected SAN component, such as a management application residing on that component. (Spec., pg. 176, lines 11-20).

wherein the interface process performs:

obtaining information on the network components from the manager

The Specification discloses that a Netview server 54 (FIG. 6) can retrieve the SAN representation from the manager service 38. (Spec., pg. 176, lines 4-10).

maintaining a rules file having at least one rule for each of the network components, wherein each rule identifies the network component to be managed, one of a plurality of communication interface types, and a parameter name, wherein the parameter name is used with the communication interface type to invoke the application process residing on the network component

The Specification discloses that a "Rules" file identifies each of the selected components and the applications and communication interfaces supported by that component, e.g., telnet, SNMP. (Spec., pg. 175, lines 5-14). The rules file has a management information section providing management information types of communication interface, e.g., Telnet, URL, application, SNMP, a command, and a parameter used with the command for the type of communication. (Spec., pgs. 178, line 18 to pg. 179, line 2 and pgs. 182-184).

displaying information representing the network components

The Specification discloses that the Netview console 52 displays a plurality of graphical objects, e.g., icons, each of which represents one of the SAN components. Alternatively, a textual list of the SAN components can be displayed. (Spec., pg. 176, lines 7-10).

receiving selection of one displayed network component

The Specification discloses that the Netview console 52 provides an operator, e.g., the SAN administrator, with a user interface element, such as keyboard or mouse, that permits selection of one of the displayed components. (Spec., pg. 176, lines 6-10).

accessing the rules file to determine at least one application process associated with the selected network component

The Specification discloses that in response to the selection of a graphical object representing a SAN component, the Netview server accesses the Rules file to obtain information regarding the application processes associated with that selected component. (Spec., pg. 176, lines 14-16)

displaying information on the at least one determined application process residing on the selected network component, wherein at least one of the determined application processes reside on the selected network component

The Specification discloses that for the selected component, the Netview server accesses the rule file to obtain information regarding the application processes associated with that selected component, and effects the display of this information, for example, in the form of a menu, on the Netview console 52. In some embodiments, a plurality of management applications residing on a selected component are displayed while in other embodiments, only the primary management application is displayed. (Spec., pg. 176, lines 14-24)

receiving selection of one of the displayed application processes residing on the selected network component

The Specification discloses that the Netview server 54 responds to the selection of one of the displayed effecting the launching of that application process via an interface process. (Spec., pg. 177, lines 1-5).

accessing the rule from the rules file for the selected application process to determine information on the selected application process and the communication interface type and parameter name supported by the application process to use to launch the selected application process on the selected network component

The Specification discloses that the Netview server 54 responds to the selection of one of the displayed application processes by effecting the launching of that application process via an interface process, such as a web-based browser application, a telnet process, or an SNMP application. More particularly, the Netview server 54 communicates with the SAN manager service 38 to retrieve information, 5 such as, launch method and its respective parameters. The SAN manager service responds to a request from the Netview server for the launch information by parsing the Rules file to generate an object, e.g., an XML object, that contains the requisite information, and transmits the information to the Netview server. The Netview server utilizes the object returned from the SAN manager service to effect the launching of the selected application process. (Spec., pg. 177, lines 1-10).

The Specification further discloses that the Rules file identifies each of the selected components and the applications and communication interfaces supported by that component, e.g., telnet, SNMP. (Spec., pg. 175, lines 5-13) The management information section of the Rules file supplies the commands and parameter for the communication interfaces to use to communicate. (Spec., pgs. 182-185).

launching the selected application process on the selected network component using the determined communication interface type and parameter name from the rules file

The Specification discloses that the SAN manager service responds to a request from the Netview server for the launch information by parsing the Rules file to generate an object, e.g., an XML object, that contains the requisite information, and transmits the

information to the Netview server. The Netview server utilizes the object returned from the SAN 10 manager service to effect the launching of the selected application process. (Spec., pg. 177, lines 4-10).

C. Independent Claim 24

Below is an explanation of the claimed subject matter of method claim 24 referring to the specification and drawings, where the claim requirements are underlined.

using a manager to communicate with network components in a network, wherein application processes reside on the network components, wherein the application processes configure and manage the network components in which the application processes execute

The Specification discloses that the SAN manager service 38 (FIG. 6) maintains a representation of the SAN providing information on the identity of the SAN components and their connectivity. The manager service 38 maintains for selected components information regarding management applications specific to them, such as applications residing directly on the components. (Spec., pg. 175, lines 1-8). These components are typically acquired from different vendors, and have various application software associated therewith. For example, the switching fabric components can have vendor-specific management applications that allow configuring and/or managing these components. (Spec., pg. 174, lines 11-18)

using an interface process to communicate with the manager and the network components, a switching fabric component, and the hosts

The Specification discloses that a Netview server 54 (FIG. 6) can retrieve the SAN representation from the manager service 38 and allow the operator to launch an application process associated with a selected SAN component, such as a management application residing on that component. (Spec., pg. 176, lines 11-20).

using the interface process to perform operations comprising:
obtaining information on the network components from the manager

The Specification discloses that a Netview server 54 (FIG. 6) can retrieve the SAN representation from the manager service 38. (Spec., pg. 176, lines 4-10).

maintaining a rules having at least one rule for each of the network components, wherein each rule identifies the network component to be managed, one of a plurality of communication interface types, and a parameter name, wherein the parameter name is used with the communication interface type to invoke the file application process residing on the network component

The Specification discloses that a “Rules” file identifies each of the selected components and the applications and communication interfaces supported by that component, e.g., telnet, SNMP. (Spec., pg. 175, lines 5-14). The rules file has a management information section providing management information types of communication interface, e.g., Telnet, URL, application, SNMP, a command, and a parameter used with the command for the type of communication. (Spec., pgs. 178, line 18 to pg. 179, line 2 and pgs. 182-184).

displaying information representing the network components

The Specification discloses that the Netview console 52 displays a plurality of graphical objects, e.g., icons, each of which represents one of the SAN components. Alternatively, a textual list of the SAN components can be displayed. (Spec., pg. 176, lines 7-10).

receiving selection of one displayed network component

The Specification discloses that the Netview console 52 provides an operator, e.g., the SAN administrator, with a user interface element, such as keyboard or mouse, that permits selection of one of the displayed components. (Spec., pg. 176, lines 6-10).

accessing the rules file to determine at least one application process associated with the selected network component

The Specification discloses that in response to the selection of a graphical object representing a SAN component, the Netview server accesses the Rules file to obtain

information regarding the application processes associated with that selected component. (Spec., pg. 176, lines 14-16)

displaying information on the at least one determined application process residing on the selected network component, wherein at least one of the determined application processes reside on the selected network component

The Specification discloses that for the selected component, the Netview server accesses the rule file to obtain information regarding the application processes associated with that selected component, and effects the display of this information, for example, in the form of a menu, on the Netview console 52. In some embodiments, a plurality of management applications residing on a selected component are displayed while in other embodiments, only the primary management application is displayed. (Spec., pg. 176, lines 14-24)

receiving selection of one of the displayed application processes residing on the selected network component

The Specification discloses that the Netview server 54 responds to the selection of one of the displayed effecting the launching of that application process via an interface process. (Spec., pg. 177, lines 1-5).

accessing the rule from the rules file for the selected application process to determine information on the selected application process and the communication interface type and parameter name supported by the application process to use to launch the selected application process on the selected network component

The Specification discloses that the Netview server 54 responds to the selection of one of the displayed application processes by effecting the launching of that application process via an interface process, such as a web-based browser application, a telnet process, or an SNMP application. More particularly, the Netview server 54 communicates with the SAN manager service 38 to retrieve information, 5 such as, launch method and its respective parameters. The SAN manager service responds to a request from the Netview server for the launch information by parsing the Rules file to

generate an object, e.g., an XML object, that contains the requisite information, and transmits the information to the Netview server. The Netview server utilizes the object returned from the SAN manager service to effect the launching of the selected application process. (Spec., pg. 177, lines 1-10).

The Specification further discloses that the Rules file identifies each of the selected components and the applications and communication interfaces supported by that component, e.g., telnet, SNMP. (Spec., pg. 175, lines 5-13) The management information section of the Rules file supplies the commands and parameter for the communication interfaces to use to communicate. (Spec., pgs. 182-185).

launching the selected application process on the selected network component using the determined communication interface type and parameter name from the rules file

The Specification discloses that the SAN manager service responds to a request from the Netview server for the launch information by parsing the Rules file to generate an object, e.g., an XML object, that contains the requisite information, and transmits the information to the Netview server. The Netview server utilizes the object returned from the SAN 10 manager service to effect the launching of the selected application process. (Spec., pg. 177, lines 4-10).

D. Independent Claim 31

The preamble of claim 31 recites a computer readable storage medium including a program executed by a manager system in communication with network components in a network, wherein application processes reside on the network components, wherein the application processes configure and manage the network components in which the application processes execute.

The Specification discloses a SAN manager 20 (FIG. 1) whose components of relevance to the claims, such as the Netview console 52 and SAN manager service 38 are shown in FIG. 6. The Specification discloses that the SAN manager 20 can include one or more software modules that collectively manage SAN 10 by collating that information to discern the makeup, topology and status of the SAN and its components. These software

modules can reside on a common digital data processor platform, or can alternatively be distributed over a number of different platforms. Those platforms may comprise any digital data processor suitable for connectivity, e.g., with the hosts. (Spec., pg. 52, line 20 to pg. 54, line 6).

a manager communicating with the network components

The Specification discloses that the SAN manager service 38 (FIG. 6) maintains a representation of the SAN providing information on the identity of the SAN components and their connectivity. The manager service 38 maintains for selected components information regarding management applications specific to them, such as applications residing directly on the components. (Spec., pg. 175, lines 1-8).

an interface process in communication with the manager and the network components

The Specification discloses that a Netview server 54 (FIG. 6) can retrieve the SAN representation from the manager service 38 and allow the operator to launch an application process associated with a selected SAN component, such as a management application residing on that component. (Spec., pg. 176, lines 11-20).

wherein the interface process performs:

obtaining information on the network components from the manager

The Specification discloses that a Netview server 54 (FIG. 6) can retrieve the SAN representation from the manager service 38. (Spec., pg. 176, lines 4-10).

maintaining a rules file having at least one rule for each of the network components, wherein each rule identifies the network component to be managed, one of a plurality of communication interface types, and a parameter name, wherein the parameter name is used with the communication interface type to invoke the application process residing on the network component

The Specification discloses that a "Rules" file identifies each of the selected components and the applications and communication interfaces supported by that

component, e.g., telnet, SNMP. (Spec., pg. 175, lines 5-14). The rules file has a management information section providing management information types of communication interface, e.g., Telnet, URL, application, SNMP, a command, and a parameter used with the command for the type of communication. (Spec., pgs. 178, line 18 to pg. 179, line 2 and pgs. 182-184).

displaying information representing the network components

The Specification discloses that the Netview console 52 displays a plurality of graphical objects, e.g., icons, each of which represents one of the SAN components. Alternatively, a textual list of the SAN components can be displayed. (Spec., pg. 176, lines 7-10).

receiving selection of one displayed network component

The Specification discloses that the Netview console 52 provides an operator, e.g., the SAN administrator, with a user interface element, such as keyboard or mouse, that permits selection of one of the displayed components. (Spec., pg. 176, lines 6-10).

accessing the rules file to determine at least one application process associated with the selected network component

The Specification discloses that in response to the selection of a graphical object representing a SAN component, the Netview server accesses the Rules file to obtain information regarding the application processes associated with that selected component. (Spec., pg. 176, lines 14-16)

displaying information on the at least one determined application process residing on the selected network component, wherein at least one of the determined application processes reside on the selected network component

The Specification discloses that for the selected component, the Netview server accesses the rule file to obtain information regarding the application processes associated with that selected component, and effects the display of this information, for example, in the form of a menu, on the Netview console 52. In some embodiments, a plurality of

management applications residing on a selected component are displayed while in other embodiments, only the primary management application is displayed. (Spec., pg. 176, lines 14-24)

receiving selection of one of the displayed application processes residing on the selected network component

The Specification discloses that the Netview server 54 responds to the selection of one of the displayed effecting the launching of that application process via an interface process. (Spec., pg. 177, lines 1-5).

accessing the rule from the rules file for the selected application process to determine information on the selected application process and the communication interface type and parameter name supported by the application process to use to launch the selected application process on the selected network component

The Specification discloses that the Netview server 54 responds to the selection of one of the displayed application processes by effecting the launching of that application process via an interface process, such as a web-based browser application, a telnet process, or an SNMP application. More particularly, the Netview server 54 communicates with the SAN manager service 38 to retrieve information, 5 such as, launch method and its respective parameters. The SAN manager service responds to a request from the Netview server for the launch information by parsing the Rules file to generate an object, e.g., an XML object, that contains the requisite information, and transmits the information to the Netview server. The Netview server utilizes the object returned from the SAN manager service to effect the launching of the selected application process. (Spec., pg. 177, lines 1-10). The Specification further discloses that the Rules file identifies each of the selected components and the applications and communication interfaces supported by that component, e.g., telnet, SNMP. (Spec., pg. 175, lines 5-13) The management information section of the Rules file supplies the commands and parameter for the communication interfaces to use to communicate. (Spec., pgs. 182-185). See also, Spec., pg. 177, lines 1-10)

launching the selected application process on the selected network component using the determined communication interface type and parameter name from the rules file

The Specification discloses that the SAN manager service responds to a request from the Netview server for the launch information by parsing the Rules file to generate an object, e.g., an XML object, that contains the requisite information, and transmits the information to the Netview server. The Netview server utilizes the object returned from the SAN 10 manager service to effect the launching of the selected application process. (Spec., pg. 177, lines 4-10).

VI. Grounds of Rejection to Be Reviewed on Appeal

A concise statement listing each ground of rejection presented for review is as follows:

A. Claims 1, 2, 4-9, and 21-48 are rejected under (35 U.S.C. §103(a)) as obvious over Weber (U.S. Patent No. 6,480,901) in view of Ismael (U.S. Patent No. 6,851,118).

VII. Argument

A. Rejection Under 35 U.S.C. §103 Over Weber in view of Ismael

1. Claims 1, 5, 7, 8, 9, 21, 24, 27, 28, 30, 31, 34, 36-48

The Examiner's cited col. 16, line 51 to col. 17, line 51 of Weber teaches the claim requirement of receiving selection of one of the displayed application processes residing on the selected network component (Sept. 2007 FOA, pg. 5)

The cited col. 16, line 51 to col. 17, line 51 of Weber discusses how upon discovering a list of devices, to start a management interface application, the user preferably double clicks on a storage system and the device property information about the selected storage system is received. The device properties include the storage system's management interface version and the management interface application program version. The management interface application program is loaded on the management station and then may be used to change the configuration of one of the devices.

The cited cols. 16-17 do not teach receiving selection of a displayed application process residing on a selected network component. Instead, the cited cols. 16-17 discuss how a user selects (double clicks) to launch a management interface application at a management station for any of the storage systems in the network. Upon selecting a storage system, the discover monitor application screen receives device properties that include a management interface application that is loaded on the management station to change the configuration of the device. (See, FIG. 5 of Weber, where management station 510 has device management applet 520, 518 to manage devices over network, col. 8, lines 50-65, cols. 9-10).

The cited management interface application is not an application process on the selected network component as claimed that the user may invoke using the communication interface type and parameter name in the rules file. Instead, the cited management interface application is a program that is locally run on the management station to manage the selected network device. The locally running management interface application accesses the selected storage system's internal object organization, which it uses to connect to the management protocol server running the storage system controller. The object graph from the storage controller identifies the objects of the

storage system storage array to display and access the storage systems configuration on a screen.

Thus, the cited cols. 16-17 of Weber discuss how to select a management interface application to load and run locally to interact with an object graph representing a storage system. This does not teach the claim requirement of receiving selection of a displayed application process residing on the selected network component. Instead, the cited Weber discusses how to select a remote device or storage system, but not how to select an application residing on such device.

The Examiner cited col. 13, lines 1-49 col. 7, lines 25-39; col. 16, lines 58-67 of Weber as teaching the claim requirement of launching the selected application process on the selected network component using the determined communication interface from the rules file. (Sept. 2007, FOA, pg. 6) Applicants traverse.

The cited col. 13 discusses a discover-monitor application screen having a management domain window presenting a tree view of the management domain. Lower level nodes in the tree represent actually physical hardware devices such as servers, arrays, and other I/O devices. The higher level nodes in the tree represent the location of the hardware devices, such as state and city. A detailed information window presents detailed properties for each device. If a device is selected, the device's management interface application program is launched. The cited col. 13 discusses a display of hardware devices in the network and their properties. The cited col. 16 discusses starting a management interface application locally to interact with a storage system in the network by the user clicking one of the storage systems. The device property information about the selected storage system is received. The cited col. 7 discusses how the management application for the device communicates with the controller and control software of the device to control.

Nowhere do the cited cols. 7, 13, and 16 of Weber anywhere teach or suggest the claim requirement of launching the selected application process on the selected network component using the determined communication interface type and parameter name from the rules file. Instead, the cited Weber discusses how to launch a management application interface on the local management station to manage, monitor and configure a selected displayed network device, such as a storage system.

Applicants submit that Weber discusses how to determine a management application to run at a management station to control a selected device over the network. This does not teach or suggest using a communication interface type and parameter name to launch a selected application process on the selected network component as claimed. The selected application in Weber that is launched is the local management application interface, not a selected application residing on a selected network component. Weber does not use information on the device to invoke an application residing on the network device, but instead uses the information to invoke a management application locally to communicate with the remote device.

Further, the claims require two levels of selection, one of the displayed network component and another of one application process associated with the network component. The cited Weber discusses that when a device node is selected, the device's management interface application is launched (Weber, col. 13, lines 44-50). This does not teach or suggest, first selecting a device, displaying application processes residing on the selected network component, and receiving selection of one displayed application process on the network component. Instead, the cited Weber discusses receiving selection of a device and then going straight to launching on the management station the management application interface for that device.

The Examiner found that Weber does not teach the claimed rules file. To address this shortcoming, the Examiner cited col. 7, line 44 to col. 8, line 67 of Ismael as teaching the claimed rules file (Sept. 2007 FOA, pg. 7). The claimed rules file has at least one rule for each of the network components, wherein each rule identifies the network component to be managed, one of a plurality of communication interface types, and a parameter name, wherein the parameter name is used with the communication interface type to invoke the application process residing on the network component.

The cited cols. 7-8 of Ismael discuss a managed object adaptor server that abstracts a communication protocol and enables applications to perform management operations on a network system agent, such as to allow the agent to be queried by remote applications that use different protocols. Different managed object adaptor servers may be provided for different protocols, such that the agents may be managed using different communication or management protocols.

Nowhere do the cited cols. 7-8 of Ismael teach or suggest a rules file having, for each of a plurality of network components, a communication interface and parameter that are used to launch the application process on the network component. Instead, the cited cols. 7-8 of Ismael discuss the use of the managed adaptor server for one system agent and to perform management operations for the agent. There is no teaching that the managed object adaptor server have communication and parameter information for multiple network components to launch the remote network components.

The Examiner further cited col. 9, lines 30-59, col. 18, lines 20-60, col. 1, line 50 to col. 2, line 41 of Ismael. (Sept. 2007 FOA, pg. 7). The cited col. 9 mentions an adaptor API to enable Java management applications to communicate with network management system agents. A managed object adaptor enables Java management applications access to management objects. The cited col. 18 mentions that to initialize an adaptor, a client application invokes a connection method. The cited parameters relate to the host name of the agent, port number and logical name which is dependent on underlying communication mechanism. Again, although the cited Ismael discusses an adaptor that provides a communication protocol to access a management object, this does not teach a rules file providing communication protocols for different network components used to allow launching of application processes on network components.

Applicants submit that even if one were to combine Weber and Ismael as the Examiner proposes, the proposed combination does not teach or suggest the combination of claim requirements of first selecting a device, displaying application processes residing on the network component, and then receiving selection of one displayed application process on the network component to launch, where a rules file identifies for each network component, a communication type and parameter name used to invoke the application process residing on the network component. Instead, the proposed combination provides the launching of a local management application interface to interface with a device and a managed adaptor server for one system agent that is used to perform management operations for a remote agent. In both cases, Weber and Ismael provide a local tool used to interface with a remote agent or device. Their proposed combination does not teach or suggest the claim requirements of using a rule to access a

network component and then select an application process residing on the selected network component to launch the selected application process on the network component.

Accordingly, Applicants requests that the Board reverse the rejection of claims 1, 21, 24, and 31 as obvious over the cited art.

2. Claims 2, 22, 25, and 32

Claims 2, 22, 25, and 32 depend from claims 1, 21, 24, and 31, respectively, and further require a graphical output device coupled to the interface process for displaying one or more graphical objects representing the application processes on the network components, wherein the interface process is coupled to the graphical output device for effecting the display of the graphical objects on the graphical output device.

First off, these claims are patentable over the cited art because they depend from one of claims 1, 21, 24, and 31, which are patentable over the cited art for the reasons discussed above. Moreover, the additional requirements of these claims provide further grounds of patentability over the cited art for the following reasons.

The Examiner cited col. 13, lines 1-67, col. 4, lines 34-52, col. 9, lines 10-42, col. 16, line 51 to col. 17, line 35 of Weber as teaching the requirement of these claims. (Sept. 2007 FOA, pgs. 7-8). Applicants traverse.

The cited sections of Weber discuss the display of network components. For instance, cited col. 13 and FIG. 6 show components, such as storage arrays and device nodes. The cited col. 4 discusses display of I/O devices, the cited col. 9 discusses an applet for discovering devices and a user interface for invoking the management interface to manage the devices. Nowhere do these cited sections teach or suggest graphical objects representing application processes on network components. Instead, the cited Weber discusses displaying information on devices and a management interface that may be used at a management station to manage a remote device. The Examiner has not cited any part of Weber that teaches or suggests displaying objects representing applications on network components.

Accordingly, Applicants requests that the Board reverse the rejection of claims 2, 22, 25, and 32 as obvious over the cited art.

3. Claims 4, 23, 26, and 33

Claims 4, 23, 26, and 33 depend from claims 3, 22, 25, and 32, respectively, and further require that the interface process responds to selection of one of the objects representing one application process by effecting execution of the application process represented by that object.

First off, these claims are patentable over the cited art because they depend from one of claims 3, 22, 25, and 32, which are patentable over the cited art for the reasons discussed above. Moreover, the additional requirements of these claims provide further grounds of patentability over the cited art for the following reasons.

The Examiner cited col. 13, lines 1-49 and col. 14, lines 10-15 of Weber as teaching the additional requirements of these claims. (Sept. 2007 FOA, pg. 8)

The cited col. 13 discusses a discover-monitor application screen having a management domain window presenting a tree view of the management domain. A detailed information window presents detailed properties for each device. If a device is selected, the device's management interface application program is launched on the management station, not the network device itself. The cited col. 13 discusses a display of hardware devices in the network and their properties. The cited col. 14 mentions a display of the management interface application, also referred to as the applet. When the user selects a device, the management interface application program for that device is loaded into the management station, not the selected device.

The cited cols. 13 and 14 do not teach or suggest that an application process in a network component is executed in response to selecting an object representing the application process of the network component. Instead, the cited cols. 13-14 discuss how a device is selected, and then the device's management interface application program is launched at a management station used to manage the device over the network. Thus, as discussed, the cited Weber discusses selecting a component to launch a management application to manage the component remotely. This does not teach selecting an application on a selected network component to execute that application on the network component.

Accordingly, Applicants requests that the Board reverse the rejection of claims 4, 23, 26, and 33 as obvious over the cited art.

4. Claims 6, 29, and 35

Claims 6, 29, and 35 depend from claims 5, 28, and 34, respectively, and further require interface process accesses the store, upon selection of one graphical object representing one of the network components, to identify at least one application process residing on the selected network component represented by the selected object.

First off, these claims are patentable over the cited art because they depend from one of intervening claims 4, 23, 26, and 33, which are patentable over the cited art for the reasons discussed above. Moreover, the additional requirements of these claims provide further grounds of patentability over the cited art for the following reasons.

The Examiner cited the above discussed cols. 13-14 of Weber as teaching the additional requirements of these claims. (Sept. 2007 FOA, pg. 8)

As discussed, the cited cols. 13-14 discuss how to select a device to launch a management application at a management station locally to control that device over the network. This does not teach or suggest upon selecting a network component to access a store to identify application processes residing on that selected network component.

Accordingly, Applicants requests that the Board reverse the rejection of claims 4, 6, 29, and 35 as obvious over the cited art.

B. Conclusion

Each of the rejections set forth in the Final Office Action is improper and should be reversed.

Respectfully submitted,

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Dated: March 13, 2008

VIII. Claims Appendix

1. (Previously Presented) A system in communication with a network comprising one or more network components comprising:

a manager in communication with the network components having application processes residing on the network components; and

an interface process in communication with the manager and the network components, wherein the interface process performs:

obtaining information on the network components from the manager;

maintaining a rules file having at least one rule for each of the network components, wherein each rule identifies the network component to be managed, one of a plurality of communication interface types, and a parameter name, wherein the parameter name is used with the communication interface type to invoke the application process residing on the network component;

displaying information representing the network components;

receiving selection of one displayed network component;

accessing the rules file to determine at least one application process associated with the selected network component;

displaying information on the at least one determined application process residing on the selected network component, wherein at least one of the determined application processes reside on the selected network component;

receiving selection of one of the displayed application processes residing on the selected network component;

accessing the rule from the rules file for the selected application process to determine information on the selected application process and the communication interface type and parameter name supported by the application process to use to launch the selected application process on the selected network component; and

launching the selected application process on the selected network component using the determined communication interface type and parameter name from the rules file.

2. (Previously Presented) The system of claim 1, further comprising:
a graphical output device coupled to the interface process for displaying one or more graphical objects representing the application processes on the network components, wherein the interface process is coupled to the graphical output device for effecting the display of the graphical objects on the graphical output device.

3. (Canceled)

4. (Previously Presented) The system of claim 2, wherein the interface process responds to selection of one of the objects representing one application process by effecting execution of the application process represented by that object.

5. (Previously Presented) The system of claim 4, further comprising:
a store containing information regarding one or more network components and one or more application processes residing on the network components.

6. (Previously Presented) The system of claim 5, wherein the interface process accesses the store, upon selection of one graphical object representing one of the network components, to identify at least one application process residing on the selected network component represented by the selected object.

7. (Previously Presented) The system of claim 1, wherein the application process is any of an executable application, a web-based browser application, a telnet session, or an SNMP application.

8. (Previously Presented) The system of claim 5, wherein the information on the network components includes an identifier for the network component and the application processes residing on the network components.

9. (Previously Presented) The system of claim 8, wherein at least one of the graphical objects representing one network component provides a textual description of that network component.

10-20. (Canceled)

21. (Previously Presented) A network, comprising:
network components, wherein application processes reside on the network components and configure and manage the network components in which the application processes execute;

a manager system in communication with the network components;

an interface process in communication with the manager and the network components, wherein the interface process performs:

obtaining information on the network components from the manager;

maintaining a rules file having at least one rule for each of the network components, wherein each rule identifies the network component to be managed, one of a plurality of communication interface types, and a parameter name, wherein the parameter name is used with the communication interface type to invoke the application process residing on the network component;

displaying information representing the network components;

receiving selection of one displayed network component;

accessing the rules file to determine at least one application process associated with the selected network component;

displaying information on the at least one determined application process residing on the selected network component, wherein at least one of the determined application processes reside on the selected network component;

receiving selection of one of the displayed application processes residing on the selected network component;

accessing the rule from the rules file for the selected application process to determine information on the selected application process and the communication

interface type and parameter name supported by the application process to use to launch the selected application process on the selected network component; and
launching the selected application process on the selected network component using the determined communication interface type and parameter name from the rules file.

22. (Previously Presented) The network of claim 21, wherein the manager system further includes:

a graphical output device coupled to the interface process for displaying one or more graphical objects representing the application processes on the network components, wherein the interface process is coupled to the graphical output device for effecting the display of the graphical objects on the graphical output device.

23. (Previously Presented) The network of claim 22, wherein the interface process responds to selection of one of the objects representing one application process by effecting execution of the application process represented by that object.

24. (Previously Presented) A method, comprising:

using a manager to communicate with network components in a network, wherein application processes reside on the network components, wherein the application processes configure and manage the network components in which the application processes execute; and

using an interface process to communicate with the manager and the network components, a switching fabric component, and the hosts; and

using the interface process to perform operations comprising:

obtaining information on the network components from the manager;

maintaining a rules having at least one rule for each of the network components, wherein each rule identifies the network component to be managed, one of a plurality of communication interface types, and a parameter name,

wherein the parameter name is used with the communication interface type to invoke the file application process residing on the network component;

displaying information representing the network components;

receiving selection of one displayed network component;

accessing the rules file to determine at least one application process associated with the selected network component;

displaying information on the at least one determined application process residing on the selected network component, wherein at least one of the determined application processes reside on the selected network component;

receiving selection of one of the displayed application processes residing on the selected network component;

accessing the rule from the rules file for the selected application process to determine information on the selected application process and the communication interface type and parameter name supported by the application process to use to launch the selected application process on the selected network component; and

launching the selected application process on the selected network component using the determined communication interface type and parameter name from the rules file.

25. (Previously Presented) The method of claim 24, further comprising:
using the interface process to effect display of one or more graphical objects representing the application processes on the network components.

26. (Previously Presented) The method of claim 25, further comprising:
selecting one of the objects representing one application process to cause the interface process to effect execution of the application process represented by that object.

27. (Previously Presented) The method of claim 26, further comprising:
providing in a store information regarding one or more network components and one or more application processes residing on the network components.

28. (Previously Presented) The method of claim 27, wherein the information on the network components includes an identifier for the network components and application processes residing on the network components.

29. (Previously Presented) The method of claim 27, further comprising:
selecting one graphical object representing one network component to effect the interface process to access the store to identify at least one application process residing on the network component represented by the selected object.

30. (Previously Presented) The method of claim 24, wherein the application process is any of an executable application, a web-based browser application, a telnet session, or an SNMP application.

31. (Previously Presented) A computer readable storage medium including a program executed by a manager system in communication with network components in a network, wherein application processes reside on the network components, wherein the application processes configure and manage the network components in which the application processes execute, comprising:

- a manager communicating with the network components; and
- an interface process in communication with the manager and the network components, wherein the interface process performs:
 - obtaining information on the network components from the manager;
 - maintaining a rules file having at least one rule for each of the network components, wherein each rule identifies the network component to be managed, one of a plurality of communication interface types, and a parameter name, wherein the parameter name is used with the communication interface type to invoke the application process residing on the network component;
 - displaying information representing the network components;
 - receiving selection of one displayed network component;
 - accessing the rules file to determine at least one application process associated with the selected network component;

displaying information on the at least one determined application process residing on the selected network component, wherein at least one of the determined application processes reside on the selected network component;
receiving selection of one of the displayed application processes residing on the selected network component;
accessing the rule from the rules file for the selected application process to determine information on the selected application process and the communication interface type and parameter name supported by the application process to use to launch the selected application process on the selected network component; and
launching the selected application process on the selected network component using the determined communication interface type and parameter name from the rules file.

32. (Previously Presented) The computer readable storage medium of claim 31, wherein the interface process is coupled to a graphical output device and further performs:

displaying one or more graphical objects on the graphical output device representing the application processes on the network components.

33. (Previously Presented) The computer readable storage medium of claim 32, wherein the interface process responds to selection of one of the objects representing one application process by effecting execution of the application process represented by that object.

34. (Previously Presented) The computer readable storage medium of claim 33, wherein the program is executed to further perform operations comprising:

communicating with a store containing information regarding one or more network components and one or more application processes residing on the network components.

35. (Previously Presented) The computer readable storage medium of claim 34, wherein the interface process accesses the store, upon selection of one graphical object representing one of the network components, to identify at least one application process residing on the selected network component represented by the selected object.

36. (Previously Presented) The computer readable storage medium of claim 34, wherein the information on the network components includes an identifier for the application processes residing on the network components.

37. (Previously Presented) The computer readable storage medium of claim 31, wherein the application process is any of an executable application, a web-based browser application, a telnet session, or an SNMP application.

38. (Previously Presented) The system of claim 1, wherein the information in the rules file for at least one network component is obtained from an operator administrator and the information in the rules file for at least one other network component is obtained via standardized queries of the at least one other network component.

39. (Previously Presented) The system of claim 1, wherein displaying information on the at least one determined application process comprises:
displaying information on a plurality of application processes residing on the selected network component to enable selection of one of the application processes on the selected network component to launch..

40. (Previously Presented) The system of claim 1, wherein the network components comprise hosts, storage devices, and at least one switching fabric, wherein the manager communicates with the hosts and storage devices via the at least one switching fabrics.

41. (Previously Presented) The system of claim 1, wherein the parameter name comprises an address used to communicate with the network component to invoke the application process.

42. (Previously Presented) The system of claim 1, wherein the parameter name comprises an executable name of the application process residing on the network component.

43. (Previously Presented) The network of claim 21, wherein the parameter name comprises an address used to communicate with the network component to invoke the application process.

44. (Previously Presented) The network of claim 21, wherein the parameter name comprises an executable name of the application process residing on the network component.

45. (Previously Presented) The method of claim 24, wherein the parameter name comprises an address used to communicate with the network component to invoke the application process.

46. (Previously Presented) The method of claim 24, wherein the parameter name comprises an executable name of the application process residing on the network component.

47. (Previously Presented) The computer readable storage medium of claim 31, wherein the parameter name comprises an address used to communicate with the network component to invoke the application process.

48. (Previously Presented) The computer readable storage medium of claim 31 wherein the parameter name comprises an executable name of the application process residing on the network component.

IX. Evidence Appendix

None

- X. Related Proceedings Appendix
None